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1 Structured Assembly language in VAX-11 MACRO

Robert R. Leeper, Karl O. Rehmer

February 1986 **ACM SIGCSE Bulletin , Proceedings of the seventeenth SIGCSE technical symposium on Computer science education**, Volume 18 Issue 1

Full text available: pdf(499.69 KB) Additional Information: full citation, abstract, references, index terms

For several years, the introductory assembly language course at Indiana-Purdue at Fort Wayne has used "structured" assembly language on an IBM System 370. A later course makes use of VAX-11 MACRO assembly language on a VAX 11/780. This paper shows how the major constructs for structured programming may be implemented in VAX-11 MACRO. The scheme involves assembly language templates for each of the constructs, a standard labeling scheme, and a commenting method which reflects the ...

2 Advanced problem solving and algorithm development

Robert N. Cook

February 1983 **ACM SIGCSE Bulletin , Proceedings of the fourteenth SIGCSE technical symposium on Computer science education**, Volume 15 Issue 1

Full text available: pdf(273.02 KB) Additional Information: full citation, abstract, references, index terms

A course in advanced problem solving and algorithm development is described in this paper. This course differs from the approach taken in many algorithm texts in that it emphasizes the problem solving process involved in developing the algorithms rather than proofs of correctness. Algorithms are studied in the areas of number theory, array processing, sorting and searching, text processing, and data structures. The course concludes with a discussion of linear, binary, and non-linear recursi ...

3 The suitability of the VAX for a course in assembly language

Robert W. Sebesta

February 1983 **ACM SIGCSE Bulletin , Proceedings of the fourteenth SIGCSE technical symposium on Computer science education**, Volume 15 Issue 1

Full text available: pdf(423.55 KB) Additional Information: full citation, abstract, references, index terms

This paper describes the assembly language course we teach, using a Digital Equipment Corporation VAX-11/780 minicomputer, in which structured programming is stressed. It also discusses the relative merits and disadvantages of choosing the VAX as the computer to be used in such a course. The first section of the paper provides a quick survey of the VAX architecture. The second describes our course in assembly language, including our method of structuring assembly language program ...

4 Schemata for teaching structured assembly language programming

James L. Silver, Robert R. Leeper

February 1983 ACM SIGCSE Bulletin , Proceedings of the fourteenth SIGCSE technical symposium on Computer science education, Volume 15 Issue 1Full text available:  pdf(352.19 KB) Additional Information: full citation, abstract, references, index terms

The paper advocates the use of structured programming techniques in designing and developing assembly language programs. It presents schemata for implementing the major constructs of structured programs in IBM 370 Assembly language. These include the extensive use of equates for defining labels and the use of indentation to illustrate logical dependencies in pseudocode comments.

5 Using assembly language to teach concepts in the introductory course 

Barry Donahue

February 1988 ACM SIGCSE Bulletin , Proceedings of the nineteenth SIGCSE technical symposium on Computer science education, Volume 20 Issue 1Full text available:  pdf(608.81 KB) Additional Information: full citation, abstract, references, citations, index terms

While current trends in the teaching of the introductory course are very positive, several problems still remain to be faced. Among these are: A basic understanding of the operation of a computer. An emphasis on concept development rather than skill development. A proper historical perspective of computer science. To help remove these deficiencies, a very simple virtual machine is introduced. B ...

6 A language for shading and lighting calculations 

Pat Hanrahan, Jim Lawson

September 1990 ACM SIGGRAPH Computer Graphics , Proceedings of the 17th annual conference on Computer graphics and interactive techniques, Volume 24

Issue 4

Full text available:  pdf(2.05 MB) Additional Information: full citation, abstract, references, citations, index terms

A shading language provides a means to extend the shading and lighting formulae used by a rendering system. This paper discusses the design of a new shading language based on previous work of Cook and Perlin. This language has various types of shaders for light sources and surface reflectances, point and color data types, control flow constructs that support the casting of outgoing and the integration of incident light, a clearly specified interface to the rendering system using global state var ...

7 Automatically extracting and representing collocations for language generation 

Frank A. Smadja, Kathleen R. McKeown

June 1990 Proceedings of the 28th conference on Association for Computational LinguisticsFull text available:  pdf(408.21 KB) Publisher Site

Additional Information: full citation, abstract, references, citations

Collocational knowledge is necessary for language generation. The problem is that collocations come in a large variety of forms. They can involve two, three or more words, these words can be of different syntactic categories and they can be involved in more or less rigid ways. This leads to two main difficulties: collocational knowledge has to be acquired and it must be represented flexibly so that it can be used for language generation. We address both problems in this paper, focusing on the ac ...

8 Toward a typed foundation for method specialization and inheritance 

John C. Mitchell

December 1989 Proceedings of the 17th ACM SIGPLAN-SIGACT symposium on Principles of programming languagesFull text available:  pdf(1.69 MB) Additional Information: full citation, abstract, references, citations, index terms

This paper discusses the phenomenon of method specialization in object-oriented programming languages. A typed function calculus of objects and classes is presented,

featuring method specialization when methods are added or redefined. The soundness of the typing rules (without subtyping) is suggested by a translation into a more traditional calculus with recursively-defined record types. However, semantic questions regarding the subtype relation on classes remain open.

9 Workshop and conference summaries: Summary: ICSE workshop on dynamic analysis (WODA 2003)

Jonathan E. Cook, Michael D. Ernst

November 2003 **ACM SIGSOFT Software Engineering Notes**, Volume 28 Issue 6

Full text available:  pdf(38.27 KB) Additional Information: full citation, abstract, references

Dynamic analysis of software systems has long proven to be a practical approach to gain understanding of the operational behavior of the system. This workshop brought together researchers in the field of dynamic analysis to discuss the breadth of the field, order the field along logical dimensions, expose common issues and approaches, and stimulate synergistic collaborations among the participants.

10 Applications: A Wavelet Packet representation of audio signals for music genre classification using different ensemble and feature selection techniques

Marco Grimaldi, Pádraig Cunningham, Anil Kokaram

November 2003 **Proceedings of the 5th ACM SIGMM international workshop on Multimedia information retrieval**

Full text available:  pdf(363.76 KB) Additional Information: full citation, abstract, references, index terms

The vast amount of music available electronically presents considerable challenges for information retrieval. There is a need to annotate music items with descriptors in order to facilitate retrieval. In this paper we present a process for determining the music genre of an item using a new set of descriptors. A Wavelet Packet Transform is applied to obtain the signal representation at different levels. Time and frequency features are extracted from these levels taking into account the nature of ...

Keywords: Wavelet analysis, ensemble techniques, features selection, music information retrieval

11 Particle transport and image synthesis

James Arvo, David Kirk

September 1990 **ACM SIGGRAPH Computer Graphics , Proceedings of the 17th annual conference on Computer graphics and interactive techniques**, Volume 24 Issue 4

Full text available:  pdf(470.16 KB) Additional Information: full citation, abstract, references, citations, index terms

The rendering equation is similar to the linear Boltzmann equation which has been widely studied in physics and nuclear engineering. Consequently, many of the powerful techniques which have been developed in these fields can be applied to problems in image synthesis. In this paper we adapt several statistical techniques commonly used in neutron transport to stochastic ray tracing and, more generally, to Monte Carlo solution of the rendering equation. First, we describe a technique known as *Ru* ...

12 Type substitution for object-oriented programming

Jens Palsberg, Michael I. Schwartzbach

September 1990 **ACM SIGPLAN Notices , Proceedings of the European conference on object-oriented programming on Object-oriented programming systems, languages, and applications**, Volume 25 Issue 10

Full text available:  pdf(989.92 KB) Additional Information: full citation, abstract, references, citations, index terms

Genericity allows the substitution of types in a class. This is usually obtained through parameterized classes, although they are inflexible since any class can be inherited but is not in itself parameterized. We suggest a new genericity mechanism, type substitution, which is a subclassing concept that complements inheritance: any class is generic, can be

"instantiated" gradually without planning, and has all of its generic instances as subclasses.

13 Some applications of logic to feasibility in higher types

Aleksandar Ignjatovic, Arun Sharma

April 2004 **ACM Transactions on Computational Logic (TOCL)**, Volume 5 Issue 2

Full text available:  pdf(137.82 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

While it is commonly accepted that computability on a Turing machine in polynomial time represents a correct formalization of the notion of a *feasibly computable* function, there is no similar agreement on how to extend this notion on *functionals*, that is, what functionals should be considered feasible. One possible paradigm was introduced by Mehlhorn, who extended Cobham's definition of feasible functions to type 2 functionals. Subsequently, this class of functionals (with inessent ...

Keywords: bounded arithmetic, functionals, higher-order complexity, second-order theories

14 Analytic response time model for distributed systems

Janice H. Cook, Leo H. Groner

May 1990 **ACM SIGAPL APL Quote Quad , Conference proceedings on APL 90: for the future**, Volume 20 Issue 4

Full text available:  pdf(137 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Network designers are faced with a combinatorial explosion of choices not only among various vendors' workstations, hosts and servers, but also among application distribution strategies, communication media, communication protocols, and network topologies. To study performance trade-offs among various designs, the authors have developed a generic system throughput and response time model for distributed systems. We have applied the model to actual customer networks. The modeller des ...

15 Groupware: some issues and experiences

Clarence A. Ellis, Simon J. Gibbs, Gail Rein

January 1991 **Communications of the ACM**, Volume 34 Issue 1

Full text available:  pdf(7.22 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

16 An extension of standard ML modules with subtyping and inheritance

John Mitchell, Sigurd Meldal, Neel Madhav

January 1991 **Proceedings of the 18th ACM SIGPLAN-SIGACT symposium on Principles of programming languages**

Full text available:  pdf(1.10 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

17 Collaborative technology and group process feedback: their impact on interactive sequences in meetings

Marcial Losada, Pedro Sanchez, Elizabeth E. Noble

September 1990 **Proceedings of the 1990 ACM conference on Computer-supported cooperative work**

Full text available:  pdf(1.11 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We analyzed group collaborative behavior by detecting patterns of interactive sequences in meetings using time series analysis. This is in contrast to previous work in which frequency counts of interactions were analyzed. Researchers have reported a decrease of these interaction frequencies associated with the use of computer-supported collaborative technology [Appl86, McGu87, Sieg86, Wats88]. We found that if group process feedback is given to people participating in a computer-supported c ...

- 18 Computational complexity and grammatical formalisms: Context-freeness and the computer processing of human languages**

Geoffrey K. Pullum

June 1983 **Proceedings of the 21st conference on Association for Computational Linguistics**

Full text available:  pdf(628.62 KB)

Additional Information: full citation, abstract, references, citations

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Context-free grammars, far from having insufficient expressive power for the description of human languages, may be overly powerful, along three dimensions; (1) weak generative capacity: there exists an interesting proper subset of the CFL's, the profligate CFL's, within which no human language appears to fall; (2) strong generative capacity: human languages can be appropriately described in terms of a proper subset of the CF-PSG's, namely those with the ECPO property; (3) time complexity: the r ...

- 19 Inheritance is not subtyping**

William R. Cook, Walter Hill, Peter S. Canning

December 1989 **Proceedings of the 17th ACM SIGPLAN-SIGACT symposium on Principles of programming languages**

Full text available:  pdf(1.24 MB)

Additional Information: full citation, abstract, references, citations, index terms

In typed object-oriented languages the subtype relation is typically based on the inheritance hierarchy. This approach, however, leads either to insecure type-systems or to restrictions on inheritance that make it less flexible than untyped Smalltalk inheritance. We present a new typed model of inheritance that allows more of the flexibility of Smalltalk inheritance within a statically-typed system. Significant features of our analysis are the introduction of polymorphism into the typing of ...

- 20 Traits: Tools and Methodology**

May 2004 **Proceedings of the 26th International Conference on Software Engineering**

Full text available:  pdf(839.73 KB)

Additional Information: full citation, abstract

 Publisher Site

Traits are an object-oriented programming language construct that allow groups of methods to be named and reused in arbitrary places in an inheritance hierarchy. Classes can reuse methods from traits as well as defining their own methods and instance variables. Traits thus enable a new style of programming, in which traits rather than classes are the primary unit of reuse. However, the additional sub-structure provided by traits is always optional: a class written using traits can also be viewed as a flat ...

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Structured programming in assembly language

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Authors [Andries van Dam](#)[Jens M. Dill](#)[Douglas F. Dixon](#)[David S. Notkin](#)**Publisher** ACM Press New York, NY, USA**Additional Information:** abstract citings index terms collaborative colleagues**Tools and Actions:** [Discussions](#) [Find similar Articles](#) [Review this Article](#)
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↑ ABSTRACT

Structured design and programming techniques can be extended from high-level languages to assembly language. Over the past three years at Brown University, beginning assembly language programmers have been successfully taught these techniques using clearly defined standards. These standards and the solutions to several of the typical problems that arise in structured assembly language programming are discussed in this paper.

↑ CITINGS 3

Robert R. Leeper, Karl O. Rehmer, Structured Assembly language in VAX-11 MACRO, Papers of the seventeenth SIGCSE technical symposium on Computer science education, p.53-60, February 06-07, 1986, Cincinnati, Ohio, United States

Karen Mackey, Howard Fosdick, An applied computer science/systems programming approach to teaching data structures, The papers of the 10th SIGCSE technical symposium on Computer science education, p.76-78, January 1979

Barry Donahue, Using assembly language to teach concepts in the introductory course, ACM SIGCSE Bulletin, v.20 n.1, p.158-162, Feb. 1988

↑ INDEX TERMS

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- ↳ **D.3 PROGRAMMING LANGUAGES**
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- ↳ **Subjects:** Curriculum

General Terms:

Design, Human Factors, Languages, Management, Performance, Theory

*** Collaborative Colleagues:**

<u>Jens M. Dill:</u>	<u>Douglas F. Dixon</u> <u>David S. Notkin</u> <u>Andries van Dam</u>	<u>Jens M. Dill</u> <u>David S. Notkin</u> <u>Andries van Dam</u>	<u>Jens M. Dill</u> <u>Douglas F. Dixon</u> <u>Andries van Dam</u>	<u>Daniel G. Aliaga</u> <u>David Arnold</u> <u>Carl Bass</u> <u>Richard J. Beach</u> <u>Dan Bergeron</u> <u>Wes Bethel</u> <u>Kellogg Booth</u> <u>Jack Bresenham</u> <u>Ken Brodlie</u> <u>Frederick P. Brooks</u> <u>Steve Bryson</u> <u>Rick Carey</u> <u>George S. Carson</u> <u>Steve Carson</u> <u>Sharon Rose Clay</u> <u>Brookshire D. Conner</u> <u>D. B. Conner</u> <u>D. Brookshire Conner</u> <u>Steven J. DeRose</u> <u>Jens M. Dill</u> <u>Douglas F. Dixon</u> <u>Louis Doctor</u>	<u>Jonathan L. Elion</u> <u>Thomas Fauihaber</u> <u>Steven K. Feiner</u> <u>Tony Fields</u> <u>James D. Foley</u> <u>Andrew Forsberg</u> <u>Andrew S. Forsberg</u> <u>Julian E. Gómez</u> <u>Nahum Gershon</u> <u>Michael Gleicher</u> <u>Julian E. Gomez</u> <u>Daniel L. Gould</u> <u>Robert Gurwitz</u> <u>Jan Hardenbergh</u> <u>Michael Hawley</u> <u>Lofton R. Henderson</u> <u>Kenneth Herndon</u> <u>Kenneth P. Herndon</u> <u>Brian Hook</u> <u>Nathan T. Huang</u> <u>Philip Hubbard</u> <u>Philip M. Hubbard</u>	<u>Carol Hunter</u> <u>Michael T. Jones</u> <u>David Kamins</u> <u>George Karniadakis</u> <u>George E. Karniadakis</u> <u>Arie Kaufman</u> <u>Henry Kaufman</u> <u>Mike Kirby</u> <u>Robert M. Kirby</u> <u>Brian Knep</u> <u>David Laidlaw</u> <u>David H. Laidlaw</u> <u>Michael Lesk</u> <u>Dan Mapes</u> <u>Aaron Marcus</u> <u>Norman Meyerowitz</u> <u>Janet Michel</u> <u>Elli Mylonas</u> <u>William M. Newman</u> <u>D A Niguidula</u> <u>Philip Hubbard</u> <u>David S. Notkin</u> <u>Randy Pausch</u>	<u>Dick Phillips</u> <u>Dick Puk</u> <u>Allen Renear</u> <u>Bill Ribarsky</u> <u>David E. Rice</u> <u>Daniel C. Robbins</u> <u>Warren Robinett</u> <u>Larry Rosenblum</u> <u>David Schlegel</u> <u>Rosemary Simpson</u> <u>Rosemary M. Simpson</u> <u>Scott S. Snibbe</u> <u>Henry Sowizral</u> <u>John Tartar</u> <u>Craig Upson</u> <u>Dan Venolia</u> <u>Jeffrey Vroom</u> <u>Matthias M. Wloka</u> <u>Nicole Yankelovich</u> <u>Robert C. Zeleznik</u> <u>Paul van Binst</u>
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ABSTRACT

For several years, the introductory assembly language course at Indiana-Purdue at Fort Wayne has used "structured" assembly language on an IBM System 370. A later course makes use of VAX-11 MACRO assembly language on a VAX 11/780. This paper shows how the major constructs for structured programming may be implemented in VAX-11 MACRO. The scheme involves assembly language templates for each of the constructs, a standard labeling scheme, and a commenting method which reflects the structure of the program.

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- 1 [Sara Baase, VAX assembly language \(2nd ed.\), Prentice-Hall, Inc., Upper Saddle River, NJ, 1992](#)
- 2 [Cook, Robert N., "Structured Assembly Language Programming", SIGCSE Bulletin 14, 1 \(February 1982\), Pages 193-200.](#)
- 3 [Silver, James L. Jr. and Leeper, Robert R., "Constructs for Structured Assembly Language Programming", SIGCSE Bulletin 15, 1 \(February 1983\), Pages 128-132.](#)
- 4 [Andries van Dam , Jens M. Dill , Douglas F. Dixon , David S. Notkin, Structured programming in assembly language, ACM SIGCSE Bulletin, v.8 n.4, p.53-67, Dec. 1976](#)

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Robert R. Leeper: Robert A. Barret

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1 Structured Assembly language in VAX-11 MACRO

Robert R. Leeper, Karl O. Rehmer

February 1986 **ACM SIGCSE Bulletin , Proceedings of the seventeenth SIGCSE technical symposium on Computer science education**, Volume 18 Issue 1

Full text available: pdf(499.69 KB) Additional Information: full citation, abstract, references, index terms

For several years, the introductory assembly language course at Indiana-Purdue at Fort Wayne has used "structured" assembly language on an IBM System 370. A later course makes use of VAX-11 MACRO assembly language on a VAX 11/780. This paper shows how the major constructs for structured programming may be implemented in VAX-11 MACRO. The scheme involves assembly language templates for each of the constructs, a standard labeling scheme, and a commenting method which reflects the ...

2 Avoiding conditional branches by code replication

Frank Mueller, David B. Whalley

June 1995 **ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 1995 conference on Programming language design and implementation**, Volume 30 Issue 6

Full text available: pdf(1.10 MB) Additional Information: full citation, references, citations, index terms

3 The PDP-11: A case study of how not to design condition codes

Robert D. Russell

April 1978 **Proceedings of the 5th annual symposium on Computer architecture**

Full text available: pdf(503.09 KB) Additional Information: full citation, abstract, references, citations, index terms

This paper investigates a design weakness in the PDP-11 architecture, namely the condition code bits. Experience with the machine has demonstrated a number of "traps" for the unwary programmer stemming directly from an inconsistent and sometimes confusing scheme of condition code settings. This is particularly annoying in view of the otherwise clean architectural characteristics of the machine. A number of "principles" are proposed that would correct the deficiencies ...

4 Selection conditions in main memory

Kenneth A. Ross

March 2004 **ACM Transactions on Database Systems (TODS)**, Volume 29 Issue 1

Full text available: pdf(296.54 KB) Additional Information: full citation, abstract, references, index terms

We consider the fundamental operation of applying a compound filtering condition to a set of records. With large main memories available cheaply, systems may choose to keep the data entirely in main memory, in order to improve query and/or update performance. The design

of a data-intensive algorithm in main memory needs to take into account the architectural characteristics of modern processors, just as a disk-based method needs to consider the physical characteristics of disk devices. An importa ...

Keywords: Branch misprediction

- 5 FORTRAN codes for estimating the one-norm of a real or complex matrix, with applications to condition estimation

Nicholas J. Higham

December 1988 **ACM Transactions on Mathematical Software (TOMS)**, Volume 14 Issue 4

Full text available:  pdf(1.10 MB)

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FORTRAN 77 codes SONEST and CONEST are presented for estimating the 1-norm (or the infinity-norm) of a real or complex matrix, respectively. The codes are of wide applicability in condition estimation since explicit access to the matrix, A, is not required; instead, matrix-vector products Ax and ATx are computed by the calling program via a reverse communication interface. The algorithms are based on a convex optimizat ...

Keywords: FORTRAN, LINPACK, condition estimation, condition number, convex optimization, infinity-norm, one-norm, reverse communication

- 6 Testing and coverage: Elided conditionals

Manos Renieris, Sébastien Chan-Tin, Steven P. Reiss

June 2004 **Proceedings of the ACM-SIGPLAN-SIGSOFT workshop on Program analysis for software tools and engineering**

Full text available:  pdf(95.18 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many software testing and automated debugging tools rely on structural coverage techniques. Such tools implicitly assume a relation between individual control-flow choices made in conditional statements during a program run and the outcome of the run. In this paper, we develop the notion of *elided choices* that, viewed in isolation, have no impact on the outcome of the program. We call the conditionals that make such choices *elided conditionals*. We develop an experimental framework ...

Keywords: coverage testing, dynamic mutation, elision

- 7 Should SCC set condition codes?

Fleur Liane Williams

September 1988 **ACM SIGARCH Computer Architecture News**, Volume 16 Issue 4

Full text available:  pdf(247.58 KB) Additional Information: [full citation](#), [index terms](#)

- 8 Automated Generation of Test Programs from Closed Specifications of Classes and Test Cases

May 2004 **Proceedings of the 26th International Conference on Software Engineering**

Full text available:  pdf(315.07 KB)

 Publisher Site

Additional Information: [full citation](#), [abstract](#)

Most research on automated specification-based software testing has focused on the automated generation of test cases. Before a software system can be tested, it must be set up according to the input requirements of the test cases. This setup process is usually performed manually, especially when testing complex data structures and databases. After the system is properly set up, a test execution tool runs the system according to the test cases and pre-recorded test scripts to obtain the outputs, which are ...

9 A foundation for sequentializing parallel code

B. Simons, D. Alpern, J. Ferrante

May 1990 Proceedings of the second annual ACM symposium on Parallel algorithms and architecturesFull text available:  pdf(1.16 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**10 A geometric approach to integer condition codes and branch instructions**

James W. Benham

December 1995 **ACM SIGCSE Bulletin**, Volume 27 Issue 4Full text available:  pdf(437.86 KB)Additional Information: [full citation](#), [index terms](#)**11 Security and privacy: Securing web application code by static analysis and runtime protection**

Yao-Wen Huang, Fang Yu, Christian Hang, Chung-Hung Tsai, Der-Tsai Lee, Sy-Yen Kuo

May 2004 **Proceedings of the 13th conference on World Wide Web**Full text available:  pdf(608.77 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Security remains a major roadblock to universal acceptance of the Web for many kinds of transactions, especially since the recent sharp increase in remotely exploitable vulnerabilities have been attributed to Web application bugs. Many verification tools are discovering previously unknown vulnerabilities in legacy C programs, raising hopes that the same success can be achieved with Web applications. In this paper, we describe a sound and holistic approach to ensuring Web application security. Vi ...

Keywords: information flow, noninterference, program security, security vulnerabilities, type systems, verification, web application security

12 A framework for the integration of partial evaluation and abstract interpretation of logic programs

Michael Leuschel

May 2004 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,

Volume 26 Issue 3

Full text available:  pdf(319.71 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Recently the relationship between abstract interpretation and program specialization has received a lot of scrutiny, and the need has been identified to extend program specialization techniques so as to make use of more refined abstract domains and operators. This article clarifies this relationship in the context of logic programming, by expressing program specialization in terms of abstract interpretation. Based on this, a novel specialization framework, along with generic correctness results ...

Keywords: Partial deduction, abstract interpretation, flow analysis, logic programming, partial evaluation, program transformation

13 The production of code-mixed discourse

David Sankoff

August 1998

Full text available:

 pdf(1.40 MB)Additional Information: [full citation](#), [abstract](#), [references](#)[Publisher Site](#)

We propose a comprehensive theory of code-mixed discourse, encompassing equivalencepoint and insertional code-switching, palindromic constructions and lexical borrowing. The starting point is a production model of code-switching accounting for empirical observations about switch-point distribution (the equivalence constraint), well-formedness

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- 14 Technical contributions: A conditional critical region pre-processor for C based on the Owicki and Gries scheme 

Michael F. Kilian

April 1985 **ACM SIGPLAN Notices**, Volume 20 Issue 4

Full text available:  pdf(648.25 KB) Additional Information: [full citation](#), [references](#)

- 15 KISS: keep it simple and sequential 

Shaz Qadeer, Dinghao Wu

June 2004 **ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 2004 conference on Programming language design and implementation**, Volume 39 Issue 6

Full text available:  pdf(204.52 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The design of concurrent programs is error-prone due to the interaction between concurrently executing threads. Traditional automated techniques for finding errors in concurrent programs, such as model checking, explore all possible thread interleavings. Since the number of thread interleavings increases exponentially with the number of threads, such analyses have high computational complexity. In this paper, we present a novel analysis technique for concurrent programs that avoids this exponent ...

Keywords: assertion checking, concurrent software, model checking, program analysis, race detection

- 16 Technical contributions: Syntax extension and the IMP72 programming language 

Walter Bilofsky

May 1974 **ACM SIGPLAN Notices**, Volume 9 Issue 5

Full text available:  pdf(765.70 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

The IMP72 language for the DEC PDP-10 computer is the most recent of the IMP family of extensible software implementation languages. Its facility for extending the syntax of the language, the syntax statement, is simple enough to be useful to relatively unsophisticated users, yet powerful enough that the IMP72 language is defined by an IMP72 source program consisting of syntax statements.

Keywords: extensible language, implementation language, syntax extension, syntax-directed compiler

- 17 Morphing aspects: incompletely woven aspects and continuous weaving 

Stefan Hanenberg, Robert Hirschfeld, Rainer Unland

March 2004 **Proceedings of the 3rd international conference on Aspect-oriented software development**

Full text available:  pdf(3.73 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Weaving is one of the fundamental mechanisms of aspect-oriented systems. A weaver composes different aspects with the base system by determining and adapting all parts where aspect specific elements are needed eventually. At runtime, timeconsuming join point checks are necessary to determine if at a certain join point aspect-specific code needs to be executed. Current technologies enforce such checks even in locations that only temporarily or under restrictive conditions (or even never) execute ...

- 18 Building adaptive distributed applications with middleware and aspects 

Gary Duzan, Joseph Loyall, Richard Schantz, Richard Shapiro, John Zinky

March 2004 **Proceedings of the 3rd international conference on Aspect-oriented software development**

Full text available: pdf(1.07 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Middleware technologies allow the development of distributed applications without explicit knowledge of the networking involved. However, in the face of changing network and CPU conditions across the distributed system, these applications often will need to adapt their behavior to maintain an acceptable quality of service (QoS), which implies a knowledge of these conditions. This adaptation is neither part of the application logic nor part of the distribution middleware, and so represents a sepa ...

Keywords: CORBA, adaptive quality of service, aspect-oriented programming, distributed objects, middleware

19 Profiling Java applications using code hotswapping and dynamic call graph revelation

Mikhail Dmitriev

January 2004 **ACM SIGSOFT Software Engineering Notes , Proceedings of the fourth international workshop on Software and performance**, Volume 29 Issue 1Full text available: pdf(1.32 MB) Additional Information: [full citation](#), [abstract](#), [references](#)

Instrumentation-based profiling has many advantages and one serious disadvantage: usually high performance overhead. This overhead can be substantially reduced if only a small part of the target application (for example, one that has previously been identified as a performance bottleneck) is instrumented, while the rest of the application code continues to run at full speed. The value of such a profiling technology would increase further if the code could be instrumented and de-instrumented as m ...

20 Informatics: input and output: An assignment of key-codes for a Japanese character keyboard

Yuzuru Hiraga, Yoshihiko Ono, Yamada-Hisao

September 1980 **Proceedings of the 8th conference on Computational linguistics**Full text available: pdf(798.47 KB) Additional Information: [full citation](#), [references](#)

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Schemata for teaching structured assembly language programming

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Proceedings of the fourteenth SIGCSE technical symposium on Computer science education

Orlando, Florida, United States

Pages: 128 - 132

Year of Publication: 1983

ISBN: 0-89791-091-5

Also published in ...

Authors James L. Silver, Jr.
Robert R. Leeper

Sponsors SIGCSE: ACM Special Interest Group on Computer Science Education
ACM: Association for Computing Machinery

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ABSTRACT

The paper advocates the use of structured programming techniques in designing and developing programs. It presents schemata for implementing the major constructs of structured programming language. These include the extensive use of equates for defining labels and the use of independent dependencies in pseudocode comments.

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Note: OCR errors may be found in this Reference List extracted from the full text article. AC complete List rather than only correct and linked references.

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- 2 Per Brinch Hansen, Operating System Principles, Prentice Hall PTR, Upper Saddle River,
- 3 Cook, Robert N., "Structured Assembly Language Programming", SIGCSE Bulletin 14, 1(193-200.

INDEX TERMS

Primary Classification:

- D. Software
 - ↳ D.3 PROGRAMMING LANGUAGES
 - ↳ D.3.2 Language Classifications
 - ↳ Subjects: Macro and assembly languages

Additional Classification:

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 - ↳ D.2.3 Coding Tools and Techniques
 - ↳ Subjects: Structured programming

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 - ↳ K.3.2 Computer and Information Science Education
 - ↳ Subjects: Curriculum

General Terms:

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Collaborative Colleagues:

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Karl O. Rehmer
James L. Silver
Spotswood D. Stoddard

James L. Silver: Robert R. Leeper

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- ACM SIGCSE Bulletin
Volume 15 , Issue 1 (February 1983)

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1 Structured Assembly language in VAX-11 MACRO

Robert R. Leeper, Karl O. Rehmer

February 1986 ACM SIGCSE Bulletin , Proceedings of the seventeenth SIGCSE tech education, Volume 18 Issue 1

Full text available: pdf(499.69 KB)

Additional Information: full citation, abstract, references

For several years, the introductory assembly language course at Indiana-Purd “structured” assembly language on an IBM System 370. A later assembly language on a VAX 11/780. This paper shows how the major constr implemented in VAX-11 MACRO. The scheme involves assembly language tem standard labeling scheme, and a commenting method which reflects the ...

2 Technical contributions: Omitted portions of paper: AL: a structured assem

Edward C. Haines

April 1973 ACM SIGPLAN Notices, Volume 8 Issue 4

Full text available: pdf(219.37 KB)

Additional Information: full citation, references

3 Schemata for teaching structured assembly language programming

James L. Silver, Robert R. Leeper

February 1983 ACM SIGCSE Bulletin , Proceedings of the fourteenth SIGCSE techn education, Volume 15 Issue 1

Full text available:  pdf(352.19 KB)

Additional Information: full citation, abstract, references

The paper advocates the use of structured programming techniques in designi programs. It presents schemata for implementing the major constructs of stru language. These include the extensive use of equates for defining labels and t dependencies in pseudocode comments.

4 The suitability of the VAX for a course in assembly language

Robert W. Sebesta

February 1983 ACM SIGCSE Bulletin , Proceedings of the fourteenth SIGCSE techn education, Volume 15 Issue 1

Full text available:  pdf(423.55 KB)

Additional Information: full citation, abstract, references

This paper describes the assembly language course we teach, using a Digital I minicomputer, in which structured programming is stressed. It also discusses choosing the VAX as the computer to be used in such a course. The first sectio of the VAX architecture. The second describes our course in assembly languag assembly language program ...

5 Using assembly language to teach concepts in the introductory course

Barry Donahue

February 1988 ACM SIGCSE Bulletin , Proceedings of the nineteenth SIGCSE techn education, Volume 20 Issue 1

Full text available:  pdf(608.81 KB)

Additional Information: full citation, abstract, references

While current trends in the teaching of the introductory course are very positiv faced. Among these are: A basic understanding of the operation of a computer rather than skill development. A proper historical perspective of computer scienc a very simple virtual machine is introduced. B ...

6 Avoiding conditional branches by code replication

Frank Mueller, David B. Whalley

June 1995 ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 1995 confere and implementation, Volume 30 Issue 6

Full text available:  pdf(1.10 MB)

Additional Information: full citation, references, citations

7 The PDP-11: A case study of how not to design condition codes

Robert D. Russell

April 1978 Proceedings of the 5th annual symposium on Computer architecture

Full text available:  pdf(503.09 KB)

Additional Information: full citation, abstract, references,

This paper investigates a design weakness in the PDP-11 architecture; namely with the machine has demonstrated a number of "traps" for the from an inconsistent and sometimes confusing scheme of condition code setting of the otherwise clean architectural characteristics of the machine. A number proposed that would correct the deficiencies ...

8 Selection conditions in main memory

Kenneth A. Ross

March 2004 ACM Transactions on Database Systems (TODS), Volume 29 Issue 1

Full text available:  pdf(296.54 KB)

Additional Information: full citation, abstract, references,

We consider the fundamental operation of applying a compound filtering condition memories available cheaply, systems may choose to keep the data entirely in query and/or update performance. The design of a data-intensive algorithm in account the architectural characteristics of modern processors, just as a disk-based physical characteristics of disk devices. An importa ...

Keywords: Branch misprediction

9 FORTRAN codes for estimating the one-norm of a real or complex matrix, estimation

Nicholas J. Higham

December 1988 ACM Transactions on Mathematical Software (TOMS), Volume 14 Issue 4

Full text available:  pdf(1.10 MB)

Additional Information: full citation, abstract, references, citations

FORTRAN 77 codes SONEST and CONEST are presented for estimating the 1-norm of a real or complex matrix, respectively. The codes are of wide applicability in condition estimation. The matrix, A , is not required; instead, matrix-vector products Ax and ATx are computed via a reverse communication interface. The algorithms are based on a convex optimization ...

Keywords: FORTRAN, LINPACK, condition estimation, condition number, convex optimization, one-norm, reverse communication

10 Testing and coverage: Elided conditionals

Manos Renieris, Sébastien Chan-Tin, Steven P. Reiss

June 2004 Proceedings of the ACM-SIGPLAN-SIGSOFT workshop on Program anal

Full text available: [pdf\(95.18 KB\)](#)

Additional Information: full citation, abstract, reference

Many software testing and automated debugging tools rely on structural cover assume a relation between individual control-flow choices made in conditional the outcome of the run. In this paper, we develop the notion of *elided choices* impact on the outcome of the program. We call the conditionals that make su develop an experimental framework ...

Keywords: coverage testing, dynamic mutation, elision

11 Should SCC set condition codes?

Fleur Liane Williams

September 1988 ACM SIGARCH Computer Architecture News, Volume 16 Issue 4

Full text available: [pdf\(247.58 KB\)](#)

Additional Information: full citation, index terms

12 Automated Generation of Test Programs from Closed Specifications of Cla

May 2004 Proceedings of the 26th International Conference on Software Engir

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Most research on automated specification-based software testing has focused on cases. Before a software system can be tested, it must be set up according to these cases. This setup process is usually performed manually, especially when testing databases. After the system is properly set up, a test execution tool runs the system using pre-recorded test scripts to obtain the outputs, which are ...

13 A foundation for sequentializing parallel code

B. Simons, D. Alpern, J. Ferrante

May 1990 Proceedings of the second annual ACM symposium on Parallel algorithm

Full text available: [pdf\(1.16 MB\)](#)

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December 1995 ACM SIGCSE Bulletin, Volume 27 Issue 4

Full text available: [pdf\(407.86 KB\)](#)

Additional Information: full citation, index terms

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August 1998

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April 1985

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Shaz Qadeer, Dinghao Wu

June 2004 ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 2004 conference and implementation, Volume 39 Issue 6

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The design of concurrent programs is error-prone due to the interaction between threads. Traditional automated techniques for finding errors in concurrent programs, such as model checking, analyze all possible thread interleavings. Since the number of thread interleavings increases exponentially with the number of threads, such analyses have high computational complexity. In this paper, we propose a technique for verifying concurrent programs that avoids this exponential complexity by focusing on a subset of interleavings.

Keywords: assertion checking, concurrent software, model checking, program verification

20 Technical contributions: Syntax extension and the IMP72 programming language

Walter Bilofsky

May 1974

ACM SIGPLAN Notices, Volume 9 Issue 5

Full text available: [pdf\(765.70 KB\)](#)

Additional Information: full citation, abstract, references

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Keywords: extensible language, implementation language, syntax extension, : 1

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 can now detect that this inequality fits into the **structure** of the setpack constraint and may infer, e.g.
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www.mpi-sb.mpg.de/~bockmayr/publications/reports/MPI-I-97-2-008.ps.gz

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 different sub-languages for expressing the **structure** This work has been submitted to the IEEE for
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[An Initial Assessment of Aspect-oriented Programming](#) Robert J. Walker, Elisa L.A. Baniassad and
www.cs.ubc.ca/spider/walker/papers/walker.1998c.ps.gz

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[Multi-Language Programming Environments for High Performance Java](#)... - Getov (1999) (Correct) (2 citations)
 based on conventional JVM The initial **structure** of our **programming** environment including all
[Multi-Language Programming Environments for High Performance](#)
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www.cs.cf.ac.uk/hpjworkshop/vladimir.ps

[Statistical Analysis of an Automated Computer Architecture](#)... - Waldron Horgan And (Correct)
 of program style, where style includes program **structure**, choice of identifier names, maintainability,
 computer architecture with a strong emphasis on **assembly language programming** as part of a Graduate
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mars.cs.unip.ac.za/~jwaldron/tmp/paper.ps

[Implementation Is Semantic Interpretation](#) - Rapaport (Correct)
 an implementation of a computer program 3. a data **structure** is an implementation of an abstract data type
 is its **structure** and behavior as seen by an **assembly-language programmer**. The implementation .
 of an algorithm, expressed in a **programming language**. Often, it is said that the program
www.cse.buffalo.edu/pub/WWW/faculty/rapaport/Papers/implementation.ps

[From System F to Typed Assembly Language](#) - Morrisett, Walker, Crary, Glew (1998) (Correct) (6 citations)
 that do not often benefit from the additional **structure** supplied by a typing discipline [23, 19, 29],
[From System F to Typed Assembly Language](#) #Greg Morrisett David Walker Cornell
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www.cs.cmu.edu/~crary/papers/1998/tal/tal-long.ps.gz

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www.cl.cam.ac.uk/Research/HVG/vista/PAPERS/HUG91.ps.gz

[The Verified Compilation of Vista Programs](#) - Curzon (1994) (Correct) (7 citations)
 microprocessor considered are a subset of the **structured assembly language** Vista, and the VIPER
 considered are a subset of the **structured assembly language** Vista, and the VIPER microprocessor,
 using the HOL theorem proving system. The **language** and microprocessor considered are a subset of
www.cl.cam.ac.uk/Research/HVG/vista/PAPERS/procos.ps.gz

[Space-saving Optimisations for the Glasgow Haskell Compiler](#) - O'Sullivan (1994) (Correct)

Flattening a tree consists of removing its **structure** by traversing it and converting it to list form
 a simple analysis program which operates at the **assembly language** level, similar to that described in
 University bos@dcs.glasgow.ac.uk Functional Languages Implementation Workshop. Paper 28 Abstract
 ftp.dcs.gla.ac.uk/pub/glasgow-fp/authors/Bryan_O'Sullivan/Space_Savings_for_GHC.ps.gz

Designing Parallel Programs by the Graphical Language GRAPNEL - Eter Kacsuk (1996) (Correct) (14 citations)
 are possible but can be applied only in a well **structured** manner. GRAPNEL is a hybrid **language**, where the
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 Abstract We propose a new visual **programming language**, called GRAPNEL (GRAphical Process's
 www.kfki.hu/~mszkihp/info/ParComp/papers/EuroMicroPSE-grapnel.ps.Z

Code Composition as an Implementation Language for Compilers - Stichnoth, Gross (1997). (Correct) (7 citations)
 in with respect to the rest of the compiler. This **structure** is important for code reuse: the same
 may illustrate the concept. A compiler takes **assembly-language** or intermediate-code sequences, which
 Code Composition as an Implementation **Language** for Compilers James M. Stichnoth and Thomas
 pecan.srv.cs.cmu.edu/afs/cs.cmu.edu/user/stichnot/public/www/dsi97.ps

From System F to Typed Assembly Language (Extended Version) - Morrisett, Walker, Crary... (1997) (Correct)
 that do not often benefit from the additional **structure** supplied by a typing discipline [23, 19, 31,
 From System F to Typed **Assembly Language** Extended Version) Greg Morrisett
 From System F to Typed **Assembly Language** Extended Version) Greg Morrisett David Walker
 cs.cornell.edu/home/jgm/papers/tal-tr.ps

On Implementations and Semantics of a Concurrent Programming.. - Sewell (1997) (Correct) (4 citations)
 a user, together with their relationship to the **structured** operational semantics (SOS)This discussion
 and Semantics of a Concurrent **Programming Language** Peter Sewell 1 Abstract The concurrency theory
 On Implementations and Semantics of a Concurrent **Programming Language** Peter Sewell 1 Abstract The
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Merging Interactive, Modular, And Object-Oriented Programming - Tung (Correct)
 requires an understanding of the problem and the **structure** of its solution. Modular **programming languages**
 speed, program size, and system flexibility using **assembly** code with different table lookup strategies
 design, and implementation of the **imp language**, the IMP system, and the IMOOP system. The
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Ellie - A General, Fine-Grained, First Class Object Based Language - Andersen (1991) (Correct)
 by allowing definitions of new type and control **structure** abstractions and by having a non-strict
 A General, Fine-Grained, First Class Object Based Language Birger Andersen Department of Computer Science
 1991 1. To appear in Journal of Object-Oriented Programming. 2 Abstract This paper presents the
 www.econ.cbs.dk/people/birger/Ellie/pub/91gen.ps.gz

A Formal Compiler Specification Method - Levin Boukimova (Correct)
 with an interpretation domain consisting of a **structured** pair of source and target derivation (parse)
 compiler, where the former is an ITU-T standard **language** popular in telecommunication software world and
 still advantageous over informal and straight **programming** and debugging approaches. In the context of
 ftp.srdc.metu.edu.tr/pub/fmg/papers/a_formal_compiler_specification_method.ps.gz

Explicit Polymorphism and CPS Conversion - Harper (1993) (Correct) (36 citations)
 as such is primarily concerned with the static **structure** and properties of programs. Matters of control
 Symposium on Principles of **Programming Languages**, Charleston, SC, January, 1993. This research
 Acm Sigplan/sigact Symposium On Principles Of **Programming Languages**, Charleston, Sc, January, 1993. This
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Programming Language Semantics in Foundational Type Theory - Crary (1998) (Correct) (1 citation)
 Martin-Lof type theory is closely tied to a **structured** operational semantics and has denotational
 Karl Crary, And Neal Glew. From System F To Typed **Assembly Language**. In Twenty-Fifth Acm Sigact-Sigplan
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